Atty. Docket No. PU3851US3

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE: Application of Jeff T. HUTCHINS et al.

Serial No.: To be assigned — Art Unit:

Filing Date: Concurrently herewith — Examiner:

For: *Superficial Zone Protein-Binding Molecules and Uses Thereof*

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Applicants request that the references identified on Form PTO-1449 appended hereto be considered by the Examiner and officially made of record in accordance with the provisions of 37 CFR 1.97

[ ] Copies of the references are enclosed
[X] Copies of the references were submitted in parent application Serial No. 09/780,718 . (37 CFR 1.98(d))
[ ] A copy of the International Search Report which issued on International Application No. _____ is submitted herewith. All of the publications cited in the International Search Report are listed on the attached form PTO-1449 and Applicants understand that copies have been supplied to the U.S. Patent Office by the International Bureau.

A. [X] The Information Disclosure Statement submitted herewith is being filed within three months of the filing date of the above application or date of entry into the national stage of an international application or before the mailing date of a first Office action on the merits, whichever event occurs last. 37 CFR 1.97(b).

OR

[ ] **The Information Disclosure Statement submitted herewith is being filed before the mailing of a first office action after the filing of a Request For Continued Examination under 37 C.F.R. 1.114 (37 C.F.R. 1.97(b)(4)).**

B. [ ] The Information Disclosure Statement transmitted herewith is being filed **after** three months of the filing date of the above application or the date of entry into the national stage as set forth in § 1.491 of an international application or after the mailing date of the first Office Action on the merits, whichever event occurred last, but **before** the mailing date of either:
(1) a final action under § 1.113 or
(2) a notice of allowance under § 1.311,
whichever occurs first.

[ ] Applicant hereby certifies that each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this statement.

[ ] Applicant elects the option to pay the fee set forth in 37 CFR 1.17(p) for submission of an Information Disclosure Statement under § 1.97(c) ($180.00).

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C. [ ] The Information Disclosure Statement transmitted herewith is being filed **after** a final action under § 1.113, or a notice of allowance under § 1.311, whichever occurs first, but before the payment of the issue fee. Also enclosed is a copy of the International Search Report which Issued on International Publication No.

In accordance with the requirements of 37 CFR 1.97(d):

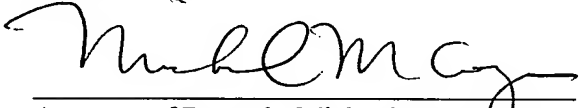
[ ] Applicant hereby certifies that each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this statement. **[or]**

[ ] Applicant hereby certifies that no item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to my knowledge after making reasonable inquiry, no item of information contained in this Information Disclosure Statement was known to any individual designated in § 1.56(c) more than three months prior to the filing of this statement; and

[ ] The petition fee set forth in § 1.17(i)(1) ($180.00) is submitted herewith.

[X] Please charge any required fees to Deposit Account No.07-1392.
[ ] A duplicate copy of this paper is attached.

Respectfully Submitted,



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Date: 17 February 2004

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FORM PTO-1449 INFORMATION DISCLOSURE STATEMENT	ATTORNEY DOCKET NO. PU3851US3	SERIAL NO. To be assigned
	APPLICANT Jeff T. HUTCHINS et al.	
	FILING DATE Concurrently herewith	GROUP

U.S. PATENT DOCUMENTS

Examiner Initials		Patent Number	Issue Date	Name	Class	Subclass	Filing Date If Appropriate

Continue on page ____

FOREIGN PATENT DOCUMENTS

		Document Number	Publication Date	Country	Class	Subclass	Translation Yes | No
	1.	WO 00/64930	11/02/2000	WIPO			

Continue on page ____

OTHER DOCUMENTS (Including Author, Title, Journal-Date, Page Number, Etc.)

	2.	Alini et al., "In serum-free culture thyroid hormones can induce full expression of chondrocyte hypertrophy leading to matrix calcification," *Journal of Bone and Mineral Research* **11(1)**:105-113 (1996).
	3.	Ikegawa et al., "Isolation, characterization and mapping of the mouse and human PRG4 (proteoglycan 4) genes," *Cytogenetics and Cell Genetics* **90(3/4)**:291-297 (2000).
	4.	Jay et al., "Lubricin is a product of megakaryocyte stimulating factor gene expression by human synovial fibroblasts," *The Journal of Rheumatology* **27(3)**:594-600 (Mar. 2000).
	5.	Jay et al., "Homology of lubricin and superficial zone protein (SZP): products of megakaryocte stimulating factor (MSF) gene expression by human synovial fibroblasts and articular chondrocytes localized to chromosome 1q25," *Journal of Ortopaedic Research* **19(4)**:677-687 (Jun. 2001).
	6.	Robbins et al., "Immortalized human adult articular chondrocytes maintain cartilage-specific phenotype and responses to interleukin-1beta," *Arthritis & Rheumatism* **43(10)**:2189-2201 (Oct. 2000).
	7.	Theiler et al., "Clinical, biochemical and imaging methods of assessing osteoarthritis and clinical trials with agents claiming 'chondromodulating' activity," *Osteoarthritis and Cartilage* **2(1)**:1-23 (Mar. 1994).

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EXAMINER	DATE CONSIDERED

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.

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Form PTO-1449 U.S. DEPARTMENT OF COMMERCE (Rev. 7-80) PATENT AND TRADEMARK OFFICE LIST OF PRIOR ART CITED BY APPLICANT (Use several sheets if necessary)	ATTORNEY DOCKET NO.: PU3851US3	SERIAL NO. To be Assigned
	APPLICANT: Hutchins, et al.	
	FILING DATE: Concurrently herewith	GROUP:

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE

FOREIGN PATENT DOCUMENTS

	A	WO 98/08949	03/05/98	Larsen et al.			

OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)

	B	Aydelotte, M.B. and Kuettner, K.E. "Differences between sub-populations of cultured bovine articular chondrocytes. I. Morphology and cartilage matrix production," *Connect Tissue Res.* 18:205-222 (1988)
	C	Aydelott, M.B. and Juettner, K.E. "Differences between sub-populations of cultured bovine articular chondrocytes. II. Proteoglycan metabolism." *Connect Tissue Res.* 18:223-234 (1988)
	D	Flannery, C.R. et al. "Articular cartilage superficial zone protein (SZP) is homologous to megakaryocyte stimulating factor precursor and is a multifunctional proteoglycan with potential growth-promoting, cytoprotective, and lubricating properties in cartilage metabolism." *Biochem. Biophys. Res. Commun.* 254(3):535-541 (1999)
	E	Kilpatrick, K.E. et al. "Rapid development of affinity matured monoclonal antibodies using RIMMS," *Hybridoma* 16(4):381-389 (1997)
	F	Lindley, K.M. et al. "Production of monoclonal antibodies using recombinant baculovirus displaying gp64-fusion proteins," *J. Immun. Methods* 234:123-135 (2000)
	G	Marcelino, J. et al. "CACP, encoding a secreted proteoglycan, is mutated in camptodactyl-arthropathy-coxa vara-pericarditis syndrome," *Nature Genetics* 23:319-322
	H	Merberg et al. "A Comparison of Vitronectin and Megakaryocyte Stimulaing Factor. In: Biology of Vitronectins and their Receptors (eds. Pressner et al.) pp. 45-53 (1993)
	I	Schmid, T.M. et al. "Immunohistochemical distribution of a novel proteoglycan in the surface lamina of articular cartilage," *Proceedings of the Orthopedic Res. Soc.* p. 97-117 (1994)
	J	Schumacher, B.L. et al. "Chondrocytes of the superficial zone of bovine articular cartilage synthesize and secrete a novel proteoglycan," Orthopaedic Research Society, poster presentation, 40th Annual Meeting, New Orleans, LA (Feb. 21-24,1994)
	K	Schumacher, B.L. et al. "Macromolecules synthesized by articular chondrocytes of the superficial zone but not the deeper zones are also synthesized by synovium," Orthopaedic Research Society, poster presentation, 41st Annual Meeting, Orlando, Florida, Feb. 13-16,1995, *Trans. Orthop. Res. Soc.* 20:397 (1995)
	L	Schumacher, B.L. et al. "A novel proteoglycan synthesized by superficial-zone chondrocytes of articular cartilage," American College of Rheumatology, platform presentation, *Arthr. Rheum.* 36:S90 (1993)
	M	Schumacher, B.L. et al. "A novel proteoglycan synthesized and secreted by chondrocytes of the superficial zone of articular cartilage," *Arch. Biochem. Biophys.* 311(1):144-152 (1994)
	N	Schumacher, B.L. et al. "Immunolocalization of a novel proteoglycan synthesized by cells lining the synovia cavity," *Trans. Orthop. Res. Soc.* 23:442 (1998)

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	O	Schumacher, B.L. et al. "Immunodetection and partial cDNA sequence of the proteoglycan, Superficial Zone Protein, synthesized by cells lining synovia joints," *J. Orthop. Res.* 17:110-120 (1999)
	P	Su, J-L. et al. "Monoclonal antibodies against human collagenase and stromelysin," *Hybridoma* 14(4):383-390 (1995)
	Q	Tudor, D. et al. "Superficial Zone Proteoglycan Biosynthesis is Stimulated by Growth Factors But Inhibited by IL-1 In Chondrocytes Maintained in Agarose Cultures," 45th Annual Meeting, Orthopaedic Research Society, Anaheim, CA (February 1-4, 1999)

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